

Linking sinking particle chemistry and biology with changes in the magnitude and efficiency of carbon export into the deep ocean

SCIENCE GOALS

- Determine magnitude, temporal variability and transfer efficiency of elemental fluxes in sinking particles
How? *Direct fluxes of POC, PIC, bSi, ²³⁴Th to sediment traps; bio-optical proxies from sensors on traps and Wirewalker*
- Determine export pathway of sinking particles
How? *Visual ID and size distribution in polyacrylamide gel traps*
- Determine organismal origins of sinking particles
How? *Visual ID and DNA of bulk samples and single particles in gels*

TEAM MEMBERS



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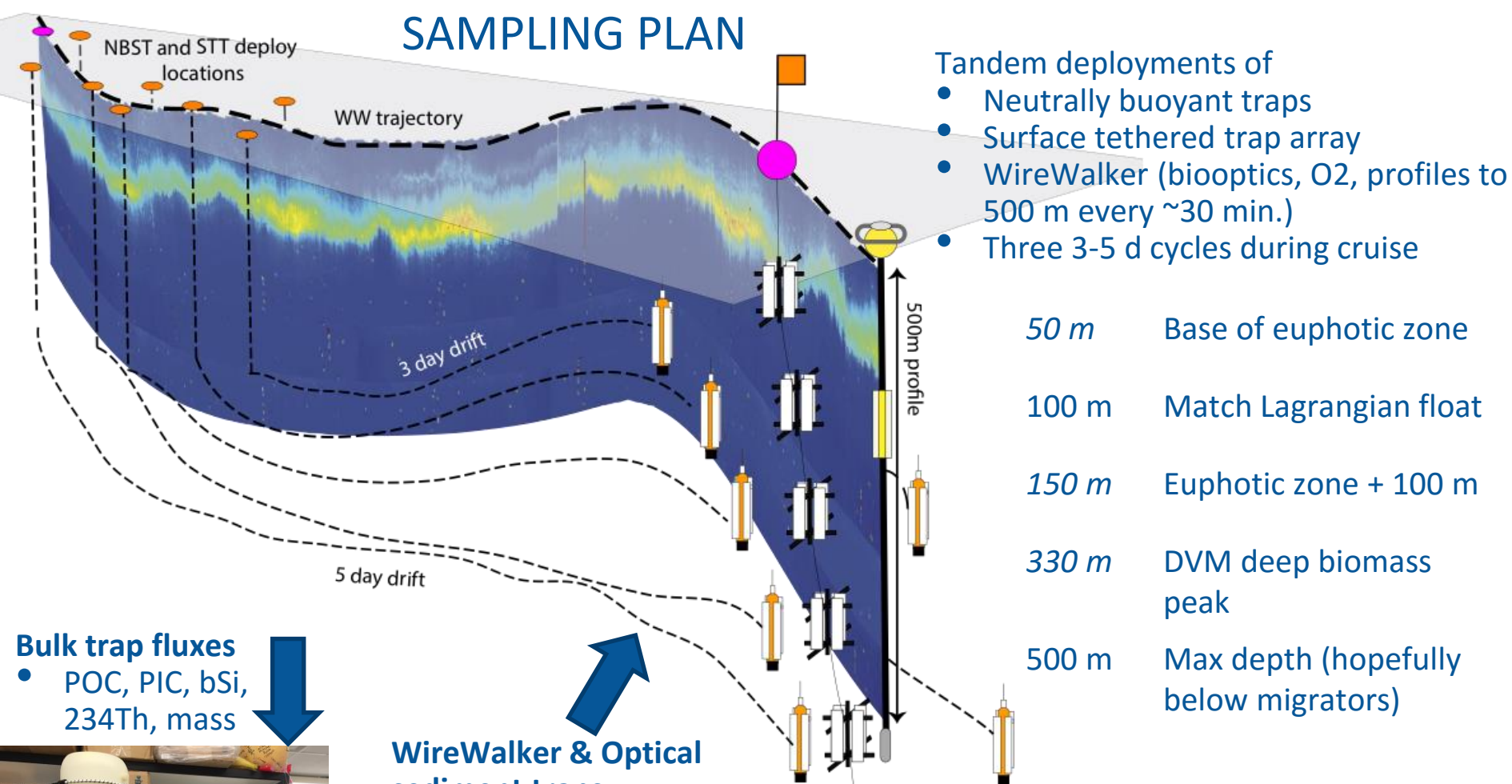
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SAMPLING PLAN



Bulk trap fluxes

- POC, PIC, bSi, ²³⁴Th, mass



WireWalker & Optical sediment traps

- Temporal variability in particle stocks and fluxes
- Rate estimates

Gel traps

- Particle size, morphology, ID
- 18S and 16S sequencing

